

## REMARKS

Claims 1-6 have been amended to make a number of editorial revisions. These revisions have been made to place the claims in better U.S. form. None of these amendments have been made to narrow the scope of protection of the claims, nor to address issues related to patentability and therefore, these amendments should not be construed as limiting the scope of equivalents of the claimed features offered by the doctrine of Equivalents. Enclosed is a marked-up copy of claims 1-6 labeled "Version with Markings to Show Changes Made" indicating the changes to claims 1-6.

Further, claims 7-10 have been cancelled and are replaced with new claims 11 and 12. New claims 11 and 12 are similar to original claims 7 and 8, and 9 and 10, respectively, and have been drafted in better U.S. form.

In light of the above, examination of the present application on the merits is respectfully requested.

Respectfully submitted,

Kojiro KAWASAKI et al.

By   
\_\_\_\_\_  
David M. Ovedovitz  
Registration No. 45,336  
Attorney for Applicants

DMO/jmj  
Washington, D.C. 20006-1021  
Telephone (202) 721-8200  
Facsimile (202) 721-8250  
July 1, 2002



What is claimed is:

1. (Amended) A <sup>n</sup> information recording medium storing digital data and management information managing the digital data, wherein

5 wherein

the management information comprises:

first time map information provided for a first object that is a digital stream <sup>having packet-multiplexed</sup> in which digital data is packet multiplexed, and in which, for each predetermined unit, an address <sup>of the packet-multiplexed digital data</sup> <sup>information recording</sup> on the <sup>medium</sup> <sup>packet-multiplexed</sup> of the digital data is related to a playback time of the digital data and stored to the <sup>information recording</sup> medium; and

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second time map information provided for a second object that is a digital stream <sup>having packet-multiplexed</sup> in which digital data is

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packet multiplexed for each predetermined unit <sup>of the packet-multiplexed</sup> of which digital data <sup>playback time</sup> contents can not be identified, and in which, for each predetermined unit, an address <sup>information recording</sup> on the <sup>medium</sup> <sup>packet-multiplexed</sup> of the digital data is related to an arrival time of the <sup>information recording</sup> packet and stored to the <sup>information recording</sup> medium.

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(Amended)

2. The information recording medium according to claim 1, wherein the first object and the second object are recorded separately <sup>on the information recording medium</sup> to different object files.

(Amended)

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3. A recording apparatus for recording a digital stream <sup>having</sup> in which digital data is packet-multiplexed to a recording medium, wherein:

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the recording medium, capable of storing first time map information in which, for each predetermined unit, an address <sup>recording</sup> on the <sup>medium</sup> <sup>packet-multiplexed</sup> of the digital data is related to

a playback time of the digital data and stored, and second time map information in which, for each predetermined unit, an address <sup>of packet-multiplexed digital data</sup> on the <sup>recording</sup> medium of the <sup>packet-multiplexed</sup> digital data is related to an arrival time of the <sup>unit</sup> packet and stored, ←

5      the apparatus <sup>said recording</sup> <sup>comprising</sup> comprises

an I/F section <sup>being operable to</sup> that receives the digital stream from external, ✓

10     a map creation section <sup>being operable to</sup> that creates the time map information according to the received digital stream; and a recording section <sup>being operable to</sup> that records the <sup>received</sup> digital stream and the time map information to the recording medium, and wherein in recording the digital stream to the recording medium, the <sup>said</sup> map creation section analyzes the <sup>received</sup> digital stream, and based on the analysis, result creates the first time map information when the playback time information can be identified, or creates the second time map information when the playback time information can not be identified.

15     as the time map information as the time map information

(Amended)

4. A recording method of recording a digital stream in which digital data is packet-multiplexed to a recording medium, wherein →

the recording medium <sup>being</sup> is capable of storing ←

first time map information in which, for each predetermined unit, an address <sup>of packet-multiplexed digital data</sup> on the <sup>recording</sup> medium of the <sup>packet-multiplexed</sup> digital data is related to a playback time of the <sup>unit</sup> digital data and stored, and second time map information in which, for each predetermined unit, an address <sup>of packet-multiplexed digital data</sup> on the <sup>recording</sup> medium of the <sup>packet-multiplexed</sup> digital data is related to an arrival time of the <sup>unit</sup> packet and stored, and the method <sup>said recording</sup> comprises comprising:

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analyzing the digital stream for recording the digital stream to the recording medium; creating time map information, wherein the time map information is creating the first time map information when the playback time information can be identified, or creating the second time map information when the playback time information can not be identified, based on said analyzing of the digital stream result; and

recording the digital stream and the time map information to the recording medium.

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(Amended)

5. A reproducing apparatus for reproducing information from a recording medium storing a digital stream having in which digital data is packet-multiplexed, wherein:

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the recording medium is capable of storing first time map information in which, for each predetermined unit, an address on the recording medium of the digital data is related to a playback time of the digital data and stored, and second time map information in which, for each predetermined unit, an address on the recording medium of the digital data is related to an arrival time of the unit and stored,

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the apparatus comprising:

- a reproducing section that reads and reproduces the digital stream from the recording medium;

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- an I/F section that receives information to designate the digital stream to be reproduced and information to designate start time of the playback; and
- a control section to control the reproducing section;

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wherein the control section controls the reproducing

section so as to determine whether the time map information of the designated digital stream is the first time map information or the second time map information, specify a read address with reference to the time map information by using a time axis according to the type of the time map information, and then start the playback from the specified <sup>read</sup> address.

(Amended)

6. A reproducing method of reproducing information from a recording medium storing a digital stream <sup>having</sup> in which digital data is packet-multiplexed, wherein ↪  
 the recording medium <sup>is</sup> capable of storing first time map information in which, for each predetermined unit, an address <sup>on the recording medium</sup> of the <sup>packet-multiplexed</sup> digital data is related to a playback time of the <sup>packet-multiplexed</sup> digital data and stored, and second time map information in which, for each predetermined unit, an address <sup>on the recording medium</sup> of the <sup>packet-multiplexed</sup> digital data is related to an arrival time of the <sup>unit</sup> packet and stored, <sup>said reproducing</sup> ↪  
 the method <sup>comprising:</sup> <sup>comprises</sup>

20 reading and reproducing the digital stream from the recording medium; ;

receiving information to designate the digital stream to be reproduced and information to designate <sup>a</sup> start time of <sup>the</sup> playback; and

25 controlling the playback, and  
 wherein <sup>said</sup> the controlling comprises determining whether the time map information of the designated digital stream is the first time map information or the second time map information, specifying a read address with reference to the time map information by using a time axis according to

the <sup>a</sup> type of the time map information, and then starting the playback from the specified <sup>read</sup> address.

- 5      7.      A program capable of enabling a computer to  
cancelled      operate as the recording apparatus according to claim 3.
8.      A computer readable recording medium storing the  
program according to claim 7.
- 10     9.      A program capable of enabling a computer to  
cancelled      operate as the reproducing apparatus according to claim 5.
10.     A computer readable recording medium storing the  
program according to claim 9.